

OPERATIONAL ART AND MILITARY OPERATIONS ON URBANIZED TERRAIN

A Monograph
By
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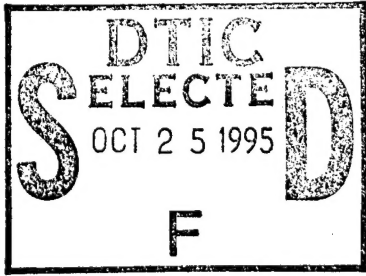
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ABSTRACT

OPERATIONAL ART AND MILITARY OPERATIONS ON URBANIZED TERRAIN

by Major Steven P. Goligowski, USA, 61 pages.

This monograph examines the contemporary environment of military operations on urbanized terrain (MOUT) and explores key issues that the US Army must resolve to improve its ability to conduct major operations in urban environments. From the analysis and discussion of these issues, the monograph draws conclusions about the sources of these issues and makes recommendations for implementing possible courses of action to resolve the issues.

The monograph begins by examining the social, military, economic, and political forces that create the contemporary MOUT environment. The research data examined in the monograph indicates that MOUT is becoming both more frequent and a more decisive component of contemporary warfare.

The monograph next discusses how the US Army has traditionally approached the conduct of MOUT. It finds that current US MOUT doctrine can be traced directly back to the lessons learned in Europe in World War II. The Army has placed little emphasis on changing or updating MOUT doctrine since that time.

Next, three case studies are presented that illustrate three types of urban conflict the US can expect to face in the future: combat against conventional forces, peacekeeping/peacemaking operations, and aid to civil authorities. The case studies used are: the American intervention in the Dominican Republic, 1965-1966; the battle of Hue, Republic of Vietnam, 1968; and British operations in Belfast, Northern Ireland, 1969-1985.

After reviewing these historical case studies the monograph examines the implications of planning a major urban operation in terms of creating an acceptable balance of aims, ways, means, and risks to provide the greatest chances of success for the operation. The use of other theoretical tools, such as center of gravity analysis, selecting lines of operation, and determining decisive points is also discussed.

The monograph concludes that MOUT is a real and immediate threat for US forces. Doctrine, training, organizations, and equipment all need to be reexamined and refined to meet this threat. A failure to address these issues creates significant risks of increasing the eventual costs of future urban operations, and failing to accomplish the strategic goals of the United States.

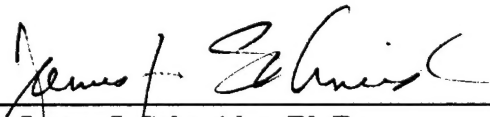
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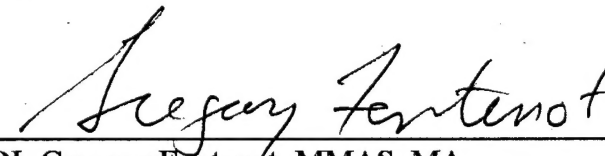
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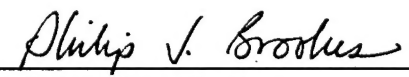
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INTRODUCTION

First, therefore, it is clear that war should never be thought of as *something autonomous* but always as an *instrument of policy*; otherwise the entire history of war would contradict us. Only this approach will enable us to penetrate the problem intelligently. *Second*, this way of looking at it will show us how wars must vary with the nature of their motives and the situations which give rise to them.

The first, the supreme, the most far-reaching act of judgement that the statesman and commander have to make is to establish by that test the kind of war on which they are embarking; neither mistaking it for, nor trying to turn it into, something that is alien to its nature. This is the first of all strategic questions and the most comprehensive.¹

These words from Clausewitz represent one of the most familiar quotes in military literature. They still have great relevance to the modern American student of war. The current national strategy of the United States describes the use of military force as a tool of national power to achieve strategic national goals. The strategy states:

U.S. military capabilities are critical to the success of our strategy. ... To protect and advance U.S. interests ... the United States must deploy robust and flexible military forces that can accomplish a variety of tasks: dealing with major regional contingencies ... ; providing a credible overseas presence ... ; countering weapons of mass destruction ... ; contributing to multilateral peace operations ... ; [and] supporting counterterrorism efforts and other national security objectives. ... To meet all of these requirements successfully, our forces must be capable of responding quickly and operating effectively. That is, they must be ready to fight and win.²

This paper will explore one of the implied tasks necessary for the military to be ready to fight and win future conflicts. That task is to consider the possible nature of future wars.

History predicts dire consequences for nations that enter war without understanding the nature of the conflict. This 'nature,' as Clausewitz calls it, is the milieu in which the war is prosecuted. The eminent military historian Sir Michael Howard identifies four components that interact dynamically to create this milieu. They are social change, political change, military change, and technological change.³ While Howard identifies an understanding of these components as essential to understanding the environment of the next war, he also states that military organizations have inherent deficiencies in their ability to identify and comprehend these changes. Howard sees these deficiencies as stemming from the military's bureaucratic and hierarchical structure, and from the inability of the military to test new ideas about war objectively without a war in progress. These deficiencies prevent militaries from gaining a

clear view of the 'next' war. Howard's answer to this inherent uncertainty is to cultivate the talents of adaptability and flexibility.

In these circumstances when everybody starts wrong, the advantage goes to the side which can most quickly adjust itself to the new and unfamiliar environment and learn from its mistakes. ... It is this flexibility both in the minds of the Armed Forces and in their organization, that needs above all to be developed in peacetime.⁴

I am tempted to declare dogmatically that whatever doctrine the Armed Forces are working on now, they have got it wrong. I am also tempted to declare that it does not matter that they have got it wrong. What does matter is their capacity to get it right quickly when the moment arrives. ... it is the task of military science in an age of peace to prevent the doctrines from being too badly wrong.⁵

The common thread between the words of Clausewitz and Howard provides the genesis for this paper. Leaders must identify, comprehend, and react now to trends that are shaping the environments of future wars. While certainty about these trends is impossible, study of trends is necessary to prevent 'being too badly wrong.' One of the trends requiring examination is the increase of conflicts in urban areas. The purpose of this paper is to examine the implications of planning and conducting future military operations in urban environments.

THE CHANGING NATURE OF URBAN COMBAT

To prepare for future urban operations, one must understand the evolving nature of the urban combat environment. The US Army's doctrinal term for urban combat is military operations on urbanized terrain (MOUT). The MOUT environment is unique in many ways from the traditional rural battlefield. John Pettine, in his analysis of helicopter operations in urban environments, describes some of the unique aspects of urban areas:

The challenge facing any commander about to fight in an urban area is a formidable one. ... The urban area offers excellent cover and concealment while severely limiting fields of fire and observation. Intelligence acquisition is reduced while the need for timely intelligence becomes even more acute. The complex and varied terrain will hamper mobility and communications. The command and control of ground units will be reduced to a level of individual fighting units, possibly down to squad size. However, in spite of this decentralized control, the fighting units must still be mutually supporting. Combat will be intense, at close range, and logistic resupply will be critical.⁶

An equally compelling description of the MOUT environment is provided by R. J. Yeoman:

Combat in builtup areas is fragmented, generally slow in developing, and time consuming in execution; it usually produces heavier-than-normal casualties and it demands careful, detailed and intelligent logistical and combat service support planning. The advantage usually lies with the defender. MOBA [Military Operations in Built-up Areas] is distinguished from other tactical forms in several key respects. The almost inevitable presence of a civilian populace imposes constraints and

responsibilities on both protagonists. The population inhabits the urban battlefield, which, like any battlefield, is comprised of terrain features. Those features, however, have unique aspects that must be appreciated. The irregular natural features of the countryside are replaced by more regular man-made structures. The buildings have vertical walls instead of gradual slopes. Streets become avenues of approach as well as killing zones. Historically, attackers have caused the greatest damage to cities, and the resulting rubble usually has accrued to the defender's advantage. Subterranean lines of communication often exist, again benefiting the defender.⁷

Most studies of MOUT agree that urban combat presents unique challenges. It is characterized by poor communications, difficult command and control, reliance on small unit leadership, difficult target acquisition, short engagement ranges, reduced effectiveness for transportation and fire support assets, and difficulties in providing logistical support to the front line.⁸ Yeoman points out that urban conditions change slowly, if at all, because technological advances, on balance, aid the defender as much or more than they aid the attacker.⁹

While the physical conditions of urban combat have changed little over time, the probability and political significance of urban combat are growing at a rapid and accelerating pace. Looking first at the growing political implications of MOUT, politics are changing the warfighting methods of belligerents. Governments find it increasingly difficult to bear the political costs of using heavy firepower in cities.¹⁰ This is often the case even when casualties are primarily enemy forces and their supporters. This sensitivity to casualties can be exploited. An enemy may initiate urban combat in the hope civilian casualties and property damage will reduce popular support for the government.¹¹ Soldiers must understand that political considerations play an increasingly important role in determining how MOUT must be conducted if the government is to win the political war as well the military battle.¹²

Looking next at the increasing frequency of urban combat, we find both political and environmental factors involved. One political factor is the fall of the Soviet Union. It was generally accepted during the Cold War that the Soviet Union was the only threat capable of militarily defeating the United States. This led to a doctrinal focus on defeating the Soviets.

The United States could ignore MOUT because Soviet doctrine called for avoiding urban combat. This line of reasoning collapsed with the Soviet Union. Military missions are now more diverse, with peacekeeping, peacemaking, and humanitarian assistance roles becoming more common. The US faces a greater probability of urban combat because the National Command Authority is more willing to risk US forces in theaters and on missions that would not have been seen as vital to national interests while the Soviet Union existed.

Another political factor increasing the chances of urban combat is the recession of support by the former Soviet Union and China for violent movements of national liberation. Both governments often provided these movements with political support, funds, equipment, and training. Both Soviet and Chinese revolutionary doctrines favored rural over urban operations, based as they were on the revolutionary experiences of the originating nations. These doctrines played a significant role in training potential US opponents to avoid urban combat. With the Soviets gone, and Chinese support for revolution greatly reduced, nations seeking violent confrontation with the US have less access to resources, and thus find it necessary to be more innovative and adaptive. The loss of these active role models for rural revolution would make urban combat more likely, even if all other conditions remained unchanged. Predictably, other conditions have not remained unchanged. Changes in the physical environment of the world are having an equally profound effect on increasing the probability of urban combat.

One of these physical changes is the urbanization of the world's population.¹³

A demographic upheaval of unprecedented proportions is today transforming almost the entire developing world - known during the Cold War as the Third World - from a predominately rural society to an urban one. For the first time, because of unimpeded population growth and a related shift from rural-based to urban-based societies, more people live in cities in the developing world than in cities in the industrialized world. ... The countries experiencing the greatest population increases are among the poorest, least developed, and most economically deficient in the world and therefore are largely incapable of feeding and providing for their increasingly impoverished populations. Within the next decade, at least 65 countries (including 30 of Africa's 51 countries) will be completely

dependent on food imports. The imposition of this additional financial burden is likely to strain anemic national economies, increase the developing world's indebtedness, and thus widen the chasm already separating "haves" from "havenots" and the Northern from the Southern Hemisphere.¹⁴

Statistics on the extent of urbanization are enlightening. Great Britain was the only nation with over fifty percent of its population in cities of greater than 20,000 in 1920.¹⁵ By 1960, one in every four people in the world lived in urban centers of this size. By 1970, twelve percent of the world's people lived in cities of over 500,000. In 1993, 286 cities had over one million residents. Up to forty-five percent of humans will live in urban areas by the year 2000. It should also be noted that the tide of urbanization is rising fastest in developing countries. In 1950, only three of the world's ten largest cities were in the Third World, compared to seventeen of the largest twenty-five in 1993. Further, this rapid growth, combined with limited resources, makes such cities hotbeds of unrest. In some countries the majority of urban residents live in a single city, making it the focus of life for the entire nation.

This exponential growth in cities, both in actual population and as a percentage of total population, is caused by a combination of several factors.¹⁶ The combined effect of these trends toward increased urbanization and increased competition for resources leads to two conclusions. First, urban combat is more likely simply because rural areas become less relevant to the political goals of a war as they are stripped of population. Second, with populations growing faster than available resources, the growing social and political tensions will lead to increasing violence as groups compete for those available resources.

Other factors also play a role in making cities likely environments for combat. Roberts and Munger found a number of advantages accrue to groups fighting in cities. Cities offer reduced levels of social control over individuals; large pools for propaganda and recruiting efforts; mobility and crowds, making it easier to contact friendly foreign governments and like-minded domestic groups to share ideas and obtain aid; increased access to food, money, equipment, and other resources; urban terrain is well suited for defense, while offering a wide range of offensive targets; the civilian population provides an effective shield against government firepower; and the buildings, large numbers of people, and grid of streets

provide more hiding places and means of escape than are often found in the bush. As one researcher noted: "Insurgents and other groups recognize cities as cultural, political, social, and economic hubs of [the] nation. They are lucrative targets. Press attention is also easier to get in cities."¹⁷ While cities have the significant disadvantage of greater concentrations of government forces, this disadvantage is often offset by the many advantages.¹⁸

Another factor increasing the probability of urban combat is the concentration of populations and essential resources in cities. Paul Bracken notes:

But cities are strategically important not just because their continued growth threatens to engulf open areas, but because they are communications, economic and population centers. They also are the political nerve centers of the developed nations, and, since all military actions are directed toward political goals, they will be drawn into political and military conflict. Greater urbanization will only increase the tendency for military forces to find themselves located in cities.¹⁹

John R. Kennedy's study of heavy forces in urban combat concludes that military forces will find themselves involved in more urban battles not because the battles are militarily desirable, but because they are politically indispensable.²⁰ Other studies reach the same conclusion.²¹ This conclusion is also supported by the experiences of US forces during recent military operations in Granada, Panama, Haiti, and Somalia. These operations followed the pattern set by the American intervention in the Dominican Republic in 1965: control of selected urban areas was decisive in controlling the entire nation. The evidence points to a future of more urban operations. The next issue to address is what preparations the US Army is making to respond to this identified trend.

MOUT AND THE US ARMY

Preparing for urban operations requires accepting that urban operations are necessary. This is not the traditional outlook of military thinkers. Sun Tzu wrote, "The worst policy is to attack cities. Attack cities only when there is no alternative."²² Current US Army doctrine, as stated in FM 90-10, takes much the same view:

Tactical doctrine stresses that urban combat operations are conducted *only* when required and that built-up areas are *isolated* and *bypassed* rather than risking a costly, time-consuming operation in this difficult environment. ... The attack or defense of a built-up area should be undertaken only when significant tactical or strategic advantage accrues through its seizure or control.²³

The antipathy expressed by Sun Tzu and the authors of FM 90-10 may help explain why there has been so little writing about MOUT. S. L. A. Marshall states:

We run into a curious void in the literature of warfare. Those practitioners of the art who were also its ablest theorists, scholars and writers dwelt on its varied aspects to the limit of their imaginations. One thing, however, they did not touch upon – combat where life is centered. Run through the list of writers and their works – Frederick, de Saxe, Clausewitz, Jomini, Kuropatkin, Bernhardt, Henderson, Foch, Fuller, Hart, et al. Not one has anything to say about military operations within or against the city. Either the subject was too sticky, too little understood, or it was dismissed as unimportant. Thus there is no foundation from which to build. Yet city fighting is not a new phenomenon peculiar to our time, though an Army that twice had to attack Seoul and once defend it, and later to defend Saigon numerous times, must be aware that it is a reality and that its nature and methodology require study.²⁴

Marshall recognized over twenty years ago that the milieu of conflict was changing. Urban combat was assuming a more important role. It was only a matter of time before military thinkers would have to address this change. As T. R. Milton says in his examination of the role of urban operations in future wars:

Operation Desert Storm validated the training and doctrine; it was the war every Army commander had trained to fight. But the reality is that American soldiers now (and will increasingly) operate and fight in low- and high-intensity urban wars. It is not business as usual.²⁵

Milton's observation is not new. A 1978 report by the US Army Science Board found senior leaders in the Army believed MOUT was inevitable in any likely army contingency.²⁶ R. J. Yeoman, studying MOUT issues for the US Marine Corps, reached a similar conclusion in 1983.²⁷ The question posed by these findings was what action the US Army would take to respond to the increased MOUT threat. To date, little has been done. Reading TRADOC Pamphlet 525-2, Force XXI Operations, and the US Army White Paper, Force XXI: America's Army in the 21st Century, give no sense that the Army is thinking about requirements to conduct future urban operations. The pamphlet seems about to discuss the issue when it mentions potential operations against forces that choose not to compete technologically with an advanced power like the United States.

... when faced with a large, technologically advanced army, they are likely to attempt to redefine the terms of conflict and pursue their aims through terrorism, insurgency, or partisan warfare. Such unconventional strategies focus on the population while attempting to retain freedom of action by avoiding combat with superior forces. They entail a protracted struggle in which the unconventional force seeks to exploit favorable circumstances to inflict casualties and achieve tactical successes

against high-technology opponents while continuing to contest control of the population. In the case of intervention by an external power or coalition, this strategy aims to undermine the enemy's will to continue a seemingly intractable, costly conflict without the necessity of defeating his main forces on the battlefield.²⁸

After this brief recognition, however, the pamphlet retreats into traditional discussions of technology-based conflicts between symmetrical opponents.²⁹ Under the heading "Future Battle," the pamphlet discusses Revolutions in Military Affairs (RMA), stating:

Innovations in technology and doctrine are the harbingers of change in warfare. Dramatic developments in both of these areas have resulted in a *revolution in military affairs*, sometimes referred to as a *military technical revolution*, which will continue into the twenty-first century. Operations Just Cause, Desert Storm, and Restore Hope epitomize this revolution and offer us a glimpse of the future.³⁰

The pamphlet fails to discuss how the RMA aids in finding and defeating enemy forces in a city, intermixed with the civilian population. The pamphlet fails to discuss battlefields, such as cities, that render technological advantages largely irrelevant.³¹ The Army seems to show once again the blind spot it demonstrated in Vietnam: failing to consider the freedom of the enemy to do what we are least prepared for them to do.³² As Andrew Krepinevich notes in his analysis of the performance of the US Army in Vietnam:

The question of how to handle the insurgency in Vietnam was left unanswered. Simply stated, having failed over the past decade to produce forces and doctrine capable of executing a counterinsurgency strategy, the Army was trying to fit a strategy to its force structure and doctrine.³³

The Army's failure to consider the implications of urban combat is a similar failure.

R. J. Yeoman is a researcher who has examined the institutional reluctance of the US military to address the issue of urban combat. He describes four stumbling blocks that confound US MOUT doctrine.³⁴ The first is the doctrine itself, which stresses avoiding MOUT and fails to recognize the increasing frequency of situations where it cannot be avoided. This emphasis is well captured in the introduction of FM 90-10, Military Operations on Urbanized Terrain:

Tactical doctrine stresses that urban combat operations are conducted only when required and that built up areas are isolated and bypassed rather than risking a costly, time-consuming operation in this difficult environment.³⁵

The emphasis on avoiding MOUT is not surprising. US doctrine has historically focused on rural operations. Yeoman feels this doctrine of avoidance leads inevitably to the other stumbling blocks because it reduces the urgency with which the US considers MOUT issues.

The second block that Yeoman cites is the failure to routinely revise and update MOUT tactics and techniques. Current MOUT doctrine is still rooted in American experiences fighting in Europe in WW II.³⁶ More recent experiences in the Dominican Republic, Granada, and Panama, have not been incorporated into doctrine. As long as the Army assumes away urban combat, the motivation to exploit new lessons learned is missing.

A third stumbling block is the lack of systemic reviews of MOUT issues. One issue is the need to establish operational requirements for weapons to perform adequately in MOUT. In his study of MOUT training and doctrine, David W. Reiss finds that without identified operational requirements there is no basis for testing new weapons for reliability and effectiveness under MOUT conditions.³⁷ Since the development of MOUT requirements is not part of the acquisition process, testing for MOUT effectiveness is almost never done.³⁸

This failure to address MOUT materiel requirements leads to the fourth stumbling block, the replacement of effective MOUT weapons by systems of limited utility for city fighting. This erosion of MOUT capability is also noted by Reiss and Kirkland.³⁹ Yeoman, Reiss, and Kirkland agree that current design requirements favor weapons with long range and the ability to defeat armored vehicles. Many of these same design requirements detract from effective MOUT capabilities. This trend in new weapons was noted as early as 1968, when marine units fighting in Hue found the new Light Anti-tank Weapon (LAW) was not as effective for city fighting as the old 3.5 inch rocket launchers that were being phased out of the inventory.⁴⁰

Yeoman, Reiss, and Kirkland were not the only ones to find problems in the US approach to MOUT. In separate works on the future of MOUT, both Michael Dewar and John Mahan found another block to effective MOUT doctrine. That block is the idea that well trained units can easily adapt to MOUT conditions, and thus do not need special training.⁴¹ Both Mahan and Dewar found this idea contradicted by actual combat experiences. Both found that a lack of specific training in MOUT techniques invariably led to higher casualties. The US Army has not reacted to these and similar findings. David Reiss concludes:

Conditions and standards [for MOUT training] are not identified in Army doctrine. Moreover, units are not required to show proficiency in MOUT skills. All of this contributes to the low priority that MOUT training receives in units.⁴²

Several other studies also support these findings that systemic blocks exist to the effective development of US MOUT doctrine.⁴³

The cumulative effect of these blocks is that the US Army lacks adequate doctrine, training, organization, and equipment to fight a modern urban conflict. Further, the Army will become progressively less capable of adapting to MOUT as newer, more technologically specialized systems replace older, general purpose systems. The implications are clear: a new approach is needed to resolve these issues and adequately prepare US forces for future MOUT operations. The first step must be to identify conditions likely to exist in an urban conflict. Ever mindful of Michael Howard's warnings, there is, admittedly, little chance that contemporary analysis can predict all the critical features of future MOUT, but analysis of recent urban battles can identify trends that may prove predictive of things to come. The next part of this paper will look for some of these trends.

HISTORICAL PERSPECTIVES

Previously cited evidence indicates that urban combat will occur with increasing frequency. Evidence also indicates that if the US does not prepare for this combat greater casualties

and a lower probability of achieving US strategic goals will result. While the specific conditions of an urban operation cannot be predicted, generalizations can be made. This paper will use three types of conflict to model expected MOUT missions. These models were selected based on two criteria. First, the models had to be viable under the political constraints likely to exist for US forces. The wholesale destruction of a city and its population is a feasible military option, but such radical options were dismissed as politically unacceptable. Second, the models had to be generic enough to allow for varying military, social, political, and economic conditions. Once selected, each model was matched to an appropriate historical example. The three mission types selected, and the cases to be examined, are: conventional military operations, represented by the fighting in Hue, South Vietnam, during the Tet Offensive of 1968; peacekeeping/peacemaking operations, represented by the American military intervention in the Dominican Republic, 1965; and, security support for civilian authorities, represented by the intervention of the British Army in Northern Ireland beginning in 1969.

The Battle of Hue, 1968⁴⁴

Early on 31 January 1968 the North Vietnamese Army (NVA) and Vietcong (VC) attacked the major cities of South Vietnam. The attack was intended to incite the population of South Vietnam to rise up, forcing an end to the Vietnam War. Preparations for the attack were noted as early as September 1967, but surprise was achieved by the timing and massive size of the attack, and its focus on major cities. Up to this time most fighting had been in the countryside; the serious threats in the cities were terrorist attacks. That now changed. With numerous reported attacks, and many Army of the Republic of Vietnam (ARVN) soldiers on leave for the holidays, all available forces were ordered to attack the NVA/VC forces. This included US marines stationed at Phu Bai, near the city of Hue. The marines, riding in

trucks and escorted by tanks, were moving by midmorning on 31 January. The experiences of A Company, 1st Battalion, 1st Marines (A/1/1) were typical. They ran into repeated ambushes along the road, but fought back and continued to move into the outskirts of town.

About 100 meters north of the An Cuu Bridge, the lead tank emerged from the 600-meter-long gauntlet into a large, open intersection with a traffic circle in the center. ... as many as six ARVN M-41 tanks and at least one APC were arrayed around the traffic circle. These had been destroyed during the last of the 7th ARVN Armored Cavalry Battalion's four unsuccessful attempts to relieve the Citadel by attacking straight up Highway 1.⁴⁵

The experiences of A/1/1 Marines reinforces two lessons of urban combat. First, armored vehicles are easy prey if unprotected by infantry. Second, concealed movement is relatively easy, allowing defenders who are driven away from an area to return if the attacker does not occupy the area with infantry. G/2/5 Marines, arriving on 1 February, quickly learned that they had to secure every room in a building to prevent the NVA/VC from returning. The company found "it had to fight a war in three dimensions rather than the usual two."⁴⁶

The marines quickly found they had other lessons to learn as well. Late on 2 February, 2/5 Marines were ordered to leave for Hue the next morning. Their commander, Lieutenant Colonel Ernest Cheatham, "realized that he had received no training in city fighting since he had been a newly minted second lieutenant preparing to depart for the Korean War."⁴⁷ Cheatham spent the night reading the 1964 version of FM 31-50, Combat in Fortified Areas and Towns. This was probably a case of too little, too late, at least for one of his companies.

By the evening of February 3, the Marines in Fox/2/5 certainly knew something about waging war in a city, but the price of knowledge had come very high. ... several men had been wounded and medevacked, one man had been killed outright, and one would soon be dead. And all for no gain.⁴⁸

The marines faced other obstacles besides their inexperience. With orders to spare as much of the city as possible, the use of indirect fire and air support was limited. The battle had to be conducted primarily with small caliber direct fire weapons. The battle was waged by squads and platoons, fighting street by street, building by building, and in many cases

room by room. Casualty rates were high. Statistically, the time an individual could expect to fight in Hue before being killed or wounded was measured in days.

As in all urban combat, the enemy was not the only challenge. The urban environment presented special dangers. Attacking troops found the city offered little effective cover from enemy fire.⁴⁹ Weapons sometimes became as dangerous to the firer as to the enemy.

A dozen NVA had been found hiding in a shed, and they wouldn't come out. The door of the shed was about fifteen feet from the post office, so [Lance Corporal Richard W.] Carter couldn't fire from there - his own shrapnel would have sprayed right back at him. So he got up on the post office roof, walked up to the edge, and aimed His rounds still exploded back on him, superficial shrapnel wounds scraping his face.⁵⁰

In another case a 106mm recoilless rifle crew fired their weapon inside a building, collapsing the ceiling and burying the weapon under a pile of debris.⁵¹ Other problems included looters,⁵² dealing with the American news media,⁵³ and large numbers of homeless civilians.⁵⁴

Finally, on 21 February, the US 1st Cavalry Division succeeded in cutting off the NVA/VC units inside the city from reinforcements. On 25 February the last major NVA/VC opposition was crushed by ARVN forces. On 26 February the city was declared secured.

Three significant lessons are illustrated by this operation. First, large numbers of soldiers are required to conduct conventional operations.⁵⁵ This requirement is driven by two factors. First, urban terrain requires a high density of soldiers to cover a given area of ground.⁵⁶ US Army doctrine speaks to the need for higher than normal force ratios:

US Army Field Manual 90-10-1, *An Infantryman's Guide to Urban Combat*, states that for urban combat, an attacking force should have from three to five times the number of soldiers it would need to attack the same objective in open terrain. What this means in real terms is that instead of the maneuver warfare doctrinal ratio of three-to-one for an attacking force routinely used and universally understood by every task force commander at every US training center, now a US force should have nine to 15 soldiers for each enemy defender.⁵⁷

The other source of demand for manpower is the extremely high casualty rate. The experience of the commanding officer of 1/5 Marines is typical:

Major [Robert H.] Thompson would sit there, ... he and his staff trying to work out an impossible mission - how to dig out a firmly entrenched force without getting a lot of Marines killed. There was no way.⁵⁸

A second lesson was that rules of engagement (ROE) often dictated that militarily preferable solutions could not be used because of political costs.⁵⁹

The allies also put themselves at a disadvantage by following ARVN Corps commander General Lam's request that to spare civilians and reduce destruction to the historic city, no artillery, bombs, or napalm be used.⁶⁰

Third, the availability of effective MOUT weapons was declining. Three of the most useful weapons in this battle, apart from small arms and handgrenades, were tear gas (CS), the 3.5 inch rocket launcher (bazooka), and the 106mm recoilless rifle. The bazooka and 106mm were replaced by weapons less suitable for MOUT operations,⁶¹ and CS requires National Command Authority approval before it can be used.⁶²

In more general terms, the impact of the fighting in Hue can be summarized as:

The fact that Hue helped generate a degree of renewed interest in MOUT in the Seventies may be due in some measure to the negative impact it had on the U.S. war effort. Although the city was retaken, the time and effort required paid substantial strategic dividends to North Vietnam. In the twenty-four days of fighting, three USMC and ten ARVN battalions were required to clear the city (it took two USMC battalions thirteen days to clear a section of only seven blocks). Among the shortcomings of U.S. forces in this battle were a lack of training for urban combat, shortages of special munitions, difficulty in projecting the dramatic increases in Class V [ammunition] consumption, and refugee control.⁶³

The Dominican Republic, 1965⁶⁴

American interest in the Dominican Republic dates from the completion of the Panama Canal, which focused American attention on the Caribbean. The 1961 assassination of Rafael Leonidas Trujillo Molina, who had ruled the country since 1930, began a cycle of political turbulence and violence that led to civil war on 25 April 1965. The fighting, localized within the capital city of Santo Domingo, escalated quickly. The rising levels of terror and violence prompted President Lyndon Johnson to order US Marines ashore on 28 April to protect American lives. On 29 April the President ordered the 82d Airborne Division (82d ABN DIV) to deploy. Their mission was to separate the warring Dominican factions and force a negotiated end to the fighting. With the marines holding a perimeter in the city of

Santo Domingo and the 82d ABN DIV landing at the airport outside of town, the first mission for American forces was to secure a land corridor between the two sites. The 1-508th Infantry Battalion of the 82d ABN DIV was selected to lead the way in linking up with the marines.⁶⁵ The battalion met light resistance, but learned how sudden and unpredictable urban combat can be. The Dominican rebels would fire a few rounds and fall back, repeatedly delaying the column. There was no real effort to prevent the Americans from linking up, but 1-508th did suffer casualties. This operation set the tone for the remainder of the American intervention. Rebel snipers were active and seemed to be everywhere. A history of the 1-508th's participation in the Dominican intervention notes: "While in this area from 11 May until 21 May 1965, the battalion received enemy fire on the average of twenty times daily."⁶⁶

The effectiveness of sniper fire is noted by Lawrence Yates in his history of the intervention.

Sniper fire accounted for the majority of American casualties during the intervention. ... The real terror stemmed from knowing that even when patrolling procedures were executed flawlessly, soldiers still stood exposed to enemy countermeasures. True cover was a luxury. Streets and intersections offered clear fields of fire for rebel gunners. Moreover, few walls or houses could stop even small-arms rounds, and ricochets off pavement or within door ways could often do more damage than a direct hit. Troops also worried about being lured into rebel cross fire. Platoon and squad leaders shared the additional burden of having to be concerned with the adverse effects that casualties might have on unit morale and discipline.⁶⁷

Understandably, the soldiers wanted to fight back. "The troops at first returned the sniper fire, but the rules of engagement restricted their choice of weapons."⁶⁸ The ROE fostered a feeling of resentment among the soldiers forced to dodge the incoming bullets. A history of the 1-17th Cavalry notes: "Under the 'no fire' orders, the cavalry found it extremely galling to sit by without returning this fire while the rebels practiced and improved their aim."⁶⁹ Veterans of the experience later used words like "dumb," "crazy," "mind-boggling," "demoralizing," "convoluted," and "confusing" to describe their perceptions of the ROE.⁷⁰

These feelings of frustration are evident in a history of the 1-505th Infantry.

Most of us were now beginning to experience a new phenomena of modern war - political control of military operations. Here again was a condition for which we were not properly trained. We all knew

in our hearts that we could beat the rebels with one swift, violent blow. Yet we were ordered to stand fast under rebel guns while the negotiators talked. This was a situation difficult to understand by the young trooper who had been so expertly trained in the techniques of conventional warfare, but who had too little appreciation for the implications of politics in war.⁷¹

There were other difficulties as well. The Americans quickly realized that their training and doctrine had not adequately prepared them for the conditions they faced in Santo Domingo.⁷² They had to learn to deal with problems like a lack of maps,⁷³ looters,⁷⁴ rebel propaganda radio broadcasts,⁷⁵ and operating civic action programs.⁷⁶ They also learned to operate checkpoints, conduct searches and patrols, and secure rebel infiltration routes through the city sewer system. Incidents of varying intensity continued throughout the summer, but by 31 August a formal reconciliation was signed between the warring factions and the rebellion was officially over. This allowed most US forces to withdraw, although some forces stayed as part of a multinational peacekeeping force until new elections were held and a new president was installed. The last US forces left the Dominican Republic on 21 September 1966.

Important lessons can be learned from the Dominican intervention. One critical lesson is that often there is little time available for training before sending troops into MOUT. The 82d ABN DIV deployed only four days after the crisis started. The decision to deploy the division was made only two days before the planes began to land and off-load soldiers. Soldiers must be trained before they are needed. Another important lesson is that there is much more to MOUT than proper techniques for clearing buildings of enemy troops. The establishment of roadblocks and checkpoints to control access to rebel areas, the establishment of an effective intelligence network among the local population, population control, civic action, and joint operations with indigenous forces are just a few of the essential tasks that must be part of the MOUT plan.

The British Army in Northern Ireland, 1969-1985⁷⁷

On 15 August 1969 the Queen's Regiment deployed to Belfast to separate rioting Protestant and Catholic mobs after three days of escalating violence. Initially the soldiers were received more as protectors than combatants, particularly by the Catholic minority.⁷⁸ As their presence dragged on, however, they became a foreign occupying army to be opposed. "... the local view was often, 'Well, the lad's doing no harm, he's only stoning the military.'"⁷⁹

It was not only the gunmen with whom the soldiers had to deal. Women too, could be a major problem. In most areas their early warning system for the approach of any stranger meant a general stand-to with the banging of dustbin lids and the blowing of whistles. Hundreds of women could gather very fast and become a dangerous menace to a patrol.⁸⁰

Radical elements on both sides tried to provoke confrontations they could use for propaganda.⁸¹ The British recognized this strategy and tried to defeat it by staying neutral, despite the growing violence against them. They also tried to maintain good civil-military relations through community action projects. These efforts had mixed results.⁸² Local residents rioted over rumors that soldiers used the activities to meet and seduce young girls. Sports programs had limited participation because children who attended the activities were often beaten and terrorized. The Provisional Irish Republican Army (PIRA) had great success turning Catholics against the British. As PIRA attacks became deadlier, the Army conducted a raid to seize weapons. It went badly. Residents turned out in mass to oppose this 'invasion.' The force used proved too small to defend itself and reinforcements were piecemealed into the fight, allowing crowds to gather and overwhelm them. The Army moved in larger forces, enforced curfews, and conducted house-to-house searches for weapons. Many arms were found, but the Catholic community was now openly and uniformly hostile.

During this early period the Army found itself on the defensive in public relations. The PIRA could spread rumors faster than the Army could disprove them.

The army looked upon the campaign as a 'war situation; and found it difficult to accept that reporters could hob-nob with the IRA who were out to kill us.' One general found that he got angry 'almost every day of my life' over something or other which had been broadcast, ...⁸³

The Army then took the offensive and allowed more media access to their operations. Allowing the media to experience the dangers and frustrations of their missions proved an aid in getting more sympathetic treatment for the army point of view.

In March 1972, in an attempt to reduce the violence, the British reduced army presence in Catholic areas. The plan backfired when the PIRA used their new freedom to declare 'liberated zones,' and began to openly organize in Catholic areas. By July conditions were so bad that the Army was ordered to mount OPERATION MOTORMAN to retake control. The Army announced its plan in advance and warned the PIRA to avoid confrontations. The plan worked. There was little opposition as the Army moved in with eleven infantry battalions, bulldozers, and bomb disposal experts to reopen the city streets.

After OPERATION MOTORMAN the conflict settled down again into a routine of bombings, sniper attacks, patrols, and civic actions. Writing in 1985, Michael Dewar found conditions much better than when the Army arrived in 1969, but noted that final military victory was practically impossible when fighting a dedicated enemy able to blend in with a civilian population that would not, or could not, give the fighters away to government forces.⁸⁴

One of the most important lessons learned from the British experience in Northern Ireland is the need to provide proper training and equipment to soldiers based on the roles they will play in support of the civil authorities. British commanders also reported significant difficulties trying to keep units current in both conventional and unconventional doctrine simultaneously. Some soldiers had problems adapting to the changes.

When they arrived in Ulster they were confused by having to blacken their faces and crawl around with weapons, against an enemy they could not identify.⁸⁵

It was not the same as Cyprus and Aden, and the ordinary soldier, and perhaps even the Army as a whole, were not prepared for the type of internal policing which they had to carry out. There was no defined enemy. Soldiers who had been trained to kill found that in Ulster they had to become diplomats. One minute they might be patrolling a Roman Catholic area, the next a Protestant area and their task of impartiality was always a difficult one.⁸⁶

The British solution was to establish a two-month training program to prepare units for rotation to Northern Ireland.⁸⁷

The classic procedure for soldiers under fire is to take cover and return the fire. They now had to be taught that the only way to succeed, if at all, was to move forward very fast and straight away start entering houses. ... However, there were dangers in doing even this regularly, because it could set up a patrol for a devastating ambush. ... They were taught never to establish patterns: that the 'dicks' would notice where they would stop for a smoke on a particular bit of waste ground or where they might shelter in a particular shop entrance. They were taught that they were watched all the time.⁸⁸

Training proved necessary even for soldiers who were veterans of previous rotations to Northern Ireland. Unconventional skills decayed rapidly when not regularly practiced.

Proper equipment proved necessary for soldiers to properly exploit their training.

The British Army is one of the best equipped armies of the modern world, but when troops arrived in Ulster in August, 1969 they were not equipped for street confrontations and rioting. ... Riot control techniques, including the arrest of rioters, had not been worked out. Only a few days after arriving troops were involved in full-scale riot situations, and most of the time they just had to stand and take the bottles and bricks that were thrown in increasing numbers. For the rioters realised that troops weighed down with equipment could not run and catch them.⁸⁹

Two other significant lessons can be drawn from the operations in Northern Ireland.

First, a military force inserted into a hostile situation will quickly become the target of hostility. Acts beneficial to one side of the dispute will automatically be seen as hostile to the other side, regardless of the original motivation for the acts. This has tremendous implications for operations to aid the legitimate government in maintaining law and order, and to reduce tensions and increase normalcy in neighborhoods. Acts performed for the best of intentions can increase local hostility to government control if a good understanding of local customs and conditions does not precede actions. Second, military forces, even when operating within the borders of their own country, will normally be considered outsiders by local inhabitants. This puts the Army at a disadvantage against an indigenous force that has the support, or at least the tolerance, of the civilian population. This points out the need for the military to maintain close ties both with local police and with the civil population, as much useful intelligence can only be gained through good human intelligence collection.⁹⁰

CONSIDERATIONS FOR URBAN OPERATIONS

These examples demonstrate that urban operations, like rural operations, depend on tactical success. In both environments tactical success is fundamentally affected by the successful use of operational art. The discussion will now turn to the use of operational art to conduct urban operations. FM 100-5 defines *operational art* as:

... the employment of military forces to attain strategic goals through the design, organization, integration, and execution of battles and engagements into campaigns and major operations. In war, operational art determines when, where, and for what purpose major forces will fight over time.⁹¹

Operational art seeks to ensure that commanders use soldiers, materiel, and time effectively to achieve strategic aims through campaign design. Such a design provides a framework to help the theater and operational commanders order their thoughts. Operational art helps commanders understand the conditions for victory before seeking battle, thus avoiding unnecessary battles. Without operational art, war would be a set of disconnected engagements, with relative attrition the only measure of success or failure.⁹²

The operational level is the vital link between national- and theater-strategic aims and the tactical employment of forces on the battlefield. The focus at this level is on conducting joint operations - the employment of military forces to attain theater-strategic objectives in a theater of war and operational objectives in the theaters of operations through design, organization, and execution of subordinate campaigns and major operations.⁹³

A summary of these definitions might be: the goal of operational art is to set the conditions of battle as to time, place, and resources in order to stack the odds in favor of the tactical commander, so as to accomplish strategic goals. In all three study cases the US and Britain were fighting for strategic goals, but failed to integrate those goals with the tactical plans before introducing troops into combat. It was only after troops were on the ground and conducting operations that serious efforts were made to reconcile the tactical with the strategic. This kind of after the fact integration obviously creates problems and is much more difficult to accomplish effectively than integration performed in advance. Winning the immediate tactical battle has to be the commander's primary concern, but how the battle is won can have overriding importance and so must be considered during initial plan formulation. An example of this kind of planning was the Salvadoran Army plan for fighting a rebel urban offensive in 1989.

Vargas [the Salvadoran Army commander] decided early to withhold destructive fires from the neighborhoods where the guerrillas were entrenched, since by his estimate there were 25,000 civilians initially trapped in those areas. He established a cordon of troops, therefore, around the neighborhoods, deliberately leaving a gap in the cordon, clearing the battle area block by block at the southeastern edge. His plan was to tighten the cordon, killing the guerrillas with ever-increasing doses of firepower as civilian noncombatants were withdrawn, while driving the guerrillas toward the gap in the lines. [Vargas had previously ordered troops surrounding the city to leave a gap in their lines to allow the guerrillas to escape out of the city.] As the guerrillas were defeated in the city and withdrew, he planned to pursue them in the countryside, where the sparse population would allow him greater use of heavy firepower.⁹⁴

Trapped in or fleeing from the guerrilla strongholds were thousands of Salvadoran citizens whose attitude would be key to victory in the war, not just the battle at hand. Killing hoards of them or wrecking their living areas through the use of heavy, indiscriminate firepower would win few hearts and minds. The ESAF [El Salvadoran Armed Forces] counterattacked methodically, therefore, using loosely task-organized combined arms teams of infantry and armor (essentially light armored vehicles), supported sparingly by mortars and artillery and heavily by helicopter and AC-47 gunships, to clear the neighborhoods.⁹⁵

While these quotes do not speak of ends, means, and ways, the methods the Army used proved well suited to the ends, means and ways available. They also supported the strategic goal of the government, to defeat the rebels without alienating the civilian population or providing incidents for either the rebel propaganda system or foreign press to exploit. The success of the ESAF demonstrates the need to balance ends, means, and ways in a campaign plan. Before examining each of these elements in turn, however, it is wise to remember a cautionary remark:

Although each part of this equation of aims [ends], means, ways, and risk is discussed separately for clarity of organization and analysis, it is cautioned that these parts of the equation cannot be considered independent of each other. They interrelate in a dynamic way; one element cannot change without affecting the others.⁹⁶

Looking first at desired ends, FM 100-5 states that the identification of a desired end state is the start point to effective operational planning.

When the nation commits its armed forces, it should clearly understand what military end state it wants to achieve. A military end state includes the required conditions that, when achieved, attain the strategic objectives or pass the main effort to other instruments of national power to achieve the final strategic end state. That end state describes what the NCA [National Command Authority] wants the situation to be when operations conclude - both military operations, as well as those where the military is in support of other instruments of national power.

Determining the end state and ensuring that it accomplishes the national objectives are the critical first steps in the operational planning process. Failure to make this determination will waste scarce resources and put the entire effort at risk.⁹⁷

In his analysis of British operational art in Burma during WW II, Don Riley writes:

The first and most critical aspect of operational art is definition of the aim to be achieved. ... Whether given in a clear strategic aim or muddled guidance the operational commander must translate this into a well defined operational aim. ... He must visualize the desired end state and ensure this leads to the achievement of the strategic aim. The planners cannot effectively set priorities and balance competing requirements unless the commander clarifies his criteria for victory. ... a clear aim allows for concentration of effort at the decisive time and place. A clear aim also allows for efficient use of means, rigorous planning of ways, and confidence in the acceptance of risk. With a clear operational aim the tactical commander can then design his operations to achieve specific goals.⁹⁸

The method of identifying a desired end state should be the same whether the campaign is primarily rural or urban. Since the objective of either is to achieve a strategic goal, the goal must drive the end state, regardless of the environment. Any significant differences, therefore, must occur in the other two elements of the process, the selection of means and ways.

Looking next at the selection of means, this is a critical component for building a successful operation, either rural or urban. Though written as a critique of German operational planning for the attack on Stalingrad, the following analysis is valid for any environment.

Military objectives must always correspond to the forces and other means available for their attainment. From a purely tactical point of view it is not enough simply to reach an objective; consolidation upon the objective is also essential. If this is not achieved, the forces involved will have over-reached themselves, and the offensive operation, no matter how attractive the target, will contain within itself and from its beginning the germ of failure if not actual defeat.⁹⁹

As noted earlier in this chapter, there is a dynamic relationship between the elements of the ends, means and ways that must not be ignored.

The aims cannot be defined, however, without a realistic evaluation of the means at hand. The combat power and the combat power multipliers available to the commander define his means. ... the means support the attainment of the aims and it is this relationship which determines the feasibility of the aims. ... Certain risks are always accepted in battle and innovative ways can redress a lack of means.¹⁰⁰

While there is a great deal of common ground in the selection of means for rural and urban operations, it is the differences that will now be examined.

One of the significant differences is the much larger proportion of foot soldiers needed for urban operations. MOUT is considered an infantry fight, but planners often underestimate the numbers of infantrymen and engineers needed to fight in a city. FM 90-10-1 states:

Due to the nature of combat in built-up areas, more troops are normally needed than in other combat situations. This is mainly due to the requirement to clear buildings in a given zone or objective, refugee control, and the possible increase in the number of friendly casualties.¹⁰¹

What FM 90-10-1 fails to discuss is the magnitude of increased demand for troops. Researchers who have examined this increased demand have consistently remarked about how large the difference is between the demands of rural and urban operations.¹⁰² Exactly how large this differential should be for planning tends to vary depending on the source of information. The range seems to fall between a low of three and a high of nine times more soldiers. Using the rule that an attacker requires a minimum advantage of 3:1 to have an even chance for a successful attack, a commander is left with the prospect of needing between 9 and 27 attackers per defender in an urban environment. More work is needed to establish a reliable rule of thumb for relative troop strengths, but planners must acknowledge the powerful evidence that troop requirements will be several times larger than in a rural setting. Admittedly, the use of combat multipliers like high-technology weapons, communications, responsive fire support, and combined arms resources allow the US to operate more efficiently than many other military forces. A factor the commander must keep in mind, however, is that many of our weapons and combat multiplying technologies lose their effectiveness in urban environments. As this paper made clear earlier, it is exactly this ability of the city to offset the technological advantages of modern military forces that draws many less technologically capable forces to operate in the urban environment. This emphasizes why it is so dangerous for the Army to continue to ignore MOUT operations while placing complete faith in an assumed RMA. One cannot emphasize too often the dangers of making irremediable assumptions about the plans and capabilities of potential enemies. One assumption the US dare not make is that enemies will knowingly expose themselves to our strengths, which tend to lie in technology. While continuing to exploit our technological prowess, we must at the same time have a doctrine that guides our efforts if an enemy goes after our weaknesses:

low ground troop strength, sensitivity to casualties, reliance on long-range fires, and the inability of sensors to reliably identify enemy forces from noncombatants.

The preceding discussion of the need for significantly greater numbers of troops to conduct effective urban operations is particularly relevant in light of the demonstrated value of applying overwhelming force to secure a city as quickly and with as few casualties as possible.

General Bruce Palmer had these comments after leading the US forces that intervened in the civil war in the Dominican Republic in 1965:

In my opinion, the hindsight judgment of too much force is neither fair nor accurate, because the use of overwhelming force, properly controlled, can save lives and reduce collateral material damage. Moreover, in the beginning no one was sure what the internal situation might bring, especially whether the revolt might spread throughout the countryside. It was clearly demonstrated that the rapid troop buildup in the Santo Domingo area allowed us to stabilize the situation on land quickly, which in turn permitted a significant and rapid phasedown of U.S. troop strength.¹⁰³

Sending too small a force can backfire by accomplishing only a stalemate or, worse, failing the mission entirely. Political, psychological, and military advantages outweigh the disadvantages of overwhelming force deployed to the crisis area as rapidly as possible. The presence of ample force is more likely in the end to result in fewer human casualties, combatant and noncombatant, and less material damage as well; sending an inadequate force is more likely to have the opposite result.¹⁰⁴

General Palmer clearly states the advantages of having overwhelming superiority over the enemy. He also points out the tendency for political considerations to favor a smaller committed force. When facing a conventional military threat it is comparatively easy to use relative combat strengths to define a required force to accomplish the mission. This provides a strong counter to the political desire to hold down troop strength. This approach worked for American forces in Hue and the Dominican Republic. What may be less clear is the utility of overwhelming military power in situations that are not strictly military, such as aid to civil authorities, as with the British Army in Northern Ireland. In situations like this there is often a strong motivation to impose limits on the number of military personnel so as not to appear provocative, and to help maintain the perception that the situation is under control. These political factors must be considered during the planning process. The other

side of this argument is that if the politicians had the situation under control, they would not need military assistance. The lessons of OPERATION MOTORMAN in Northern Ireland, as well as American experiences in military aid to civil authorities, are that a large, forceful, professional, and disciplined military presence in the streets can often deter hostile acts, while encouraging the peaceful elements of the population to come forward with needed information to aid in the identification and arrest of the lawless forces causing the violence.¹⁰⁵ To make aid to civil authorities work requires careful analysis of the specific situation, and a weighing of the political risks of using too many troops versus the military risks of providing too few. The military commander must be able to speak authoritatively about both types of risks, as their effects overlap. As a rule, a smaller force will require more time to restore order than a larger force, even with the advantages of a combined arms force. General Palmer provides a useful summary of the relative utility of combined arms formations in urban conflicts:

The basic requirement on the ground is for infantry, preferably light infantry, but highly disciplined and skilled; troops of poor quality are a liability. Other combat and combat support units - field artillery, armor, attack aviation, engineers, and so on - must also be available, while the necessity of troop-carrying, scout, and utility helicopter units is a given. Military police are particularly useful and should be deployed in early echelons. Special forces, with their great versatility and high skill levels, are needed for the unconventional and unexpected tasks that are bound to arise in such undertakings. Civil affairs and psychological operations units are valuable; such activities should become second nature and an integral part of operational planning.¹⁰⁶

In a detailed analysis of no less than twenty-two separate modern urban battles, McLaurin attempts to isolate the common factors that influence the outcomes of urban conflicts.¹⁰⁷ His findings clearly support the value of well trained combined arms formations in urban operations. The pivotal lesson of McLaurin is to recognize the limits of combined arms in an urban environment and ensure the force is tailored to accomplish the assigned mission. The author notes that the greatest advantage for combined arms occurs only in general or

relatively unlimited wars where the heavy use of firepower can be politically supported.¹⁰⁸ As greater political constraints are applied to the level of force that commanders can use, the effective differences between the combat capabilities of modern and less sophisticated forces steadily declines. Other studies note similar findings. Armstrong finds the use of modern, high technology weapons can generate sympathy for the enemy if the use of these weapons is somehow perceived as 'unfair' by those following the conflict through media sources.¹⁰⁹ Armstrong also finds a danger in the availability of combined arms weapons in that commanders are tempted to use them even when they are not appropriate. A strong set of restraints is necessary to ensure that in trying to protect the lives of their troops commanders do not use firepower so indiscriminately that they kill large numbers of civilians and destroy large amounts of civilian property.¹¹⁰ The indiscriminate use of firepower invariably results in outcomes counterproductive to the political goals of the operation. Author, and British Army officer, Michael Dewar, specifically accuses the US of failing to employ only reasonable and justifiable force when conducting combat operations during limited conflicts. He states:

Serious questions have since been raised about US tactics. Was a sledgehammer used to crack a nut? Twenty-six US servicemen were killed, whereas there were 202 civilian fatalities, suggesting that the use of firepower was both overdone and indiscriminate. ... There is some evidence to suggest that during Operation 'Just Cause', ... US troops were loath to employ basic infantry tactics to winkle out the limited opposition. ... It is somewhat worrying to note the apparent loss of expertise by US troops in the area of minor tactics and MOUT. But to some extent, this has always been a weakness in US Army training.¹¹¹

... the art of minor infantry tactics, of fire and maneuver and the surgical application of small-arms fire, seems to have been virtually lost in the US Army - it is an army that has become mesmerized by technology. And unfortunately urban warfare is the form of warfare - with the possible exception of jungle warfare - that lends itself least to the application of technology. Basic infantry tactics are necessary.¹¹²

There is one more factor that must be considered in the allocation of combat forces to an urban conflict, the danger urban battlefields pose to the advanced weapon systems themselves. Urban battlefields not only reduce the offensive effectiveness of weapon effects on the enemy; the environment can aggravate vulnerabilities of specific weapon systems. The

commander must consider these effects when building the combined arms team. These vulnerabilities will vary with the type of urban area to be occupied and the type of enemy to be opposed. Some general comments about weapon systems may serve to illustrate the issue. A study by the US Army Infantry School found special dangers exist for helicopters in a city.

One of the major problems facing aviation operations in combat in cities could be the difficulty in eradicating sniper and antiaircraft fires. The city affords ideal cover and concealment for both snipers and small antiaircraft weapons in the vicinity of rooftops where helicopters would be operating. ... The availability of large landing zones in a city could be a major problem.¹¹³

This warning seems particularly appropriate in light of the damage done to US helicopters by ground fire during the fighting in Mogadishu, Somalia in October 1993. Ground vehicles also become more vulnerable in urban environments. Armored vehicles in particular suffer from the reduced engagement ranges, visibility, and mobility that characterize urban combat. Michael Dormeyer, in his study of armor in urban fighting, finds that urban terrain is ideal for anti-armor hunter-killer teams.¹¹⁴ The terrain of the city provides excellent cover and concealment for the teams to approach their targets and set up ambushes. In addition, the third dimension of the urban battlefield, created by the rise of tall buildings above the constrained trafficability of the city streets, provides a unique opportunity to engage the vulnerable tops of armored vehicles. Reiss points out that the only effective way to counter these and similar threats is to use sufficient dismounted troops to physically occupy the most dangerous sites for enemy antiaircraft and antiarmor teams. As has already been discussed, this takes manpower. A planner can easily get caught up in a never ending 'chicken or egg' argument over whether to place priority on deploying armor and aviation assets for firepower and quick reaction protection for arriving troops, or to place priority on deploying large numbers of dismounted soldiers who can provide protection for vulnerable armor and air systems. Despite the extensive research conducted for this paper, this author was unable to discover a

compelling answer to this dilemma. Unfortunately, the best available advice seems to be the old standby that the answer in each situation will depend on METT-T (Mission, Enemy, Terrain, Troops, Time). It will be up to the skill and *coup d'oeil* of the responsible commander and his staff to solve the puzzle of what constitutes appropriate means for the specific situation they face.

The time has now come to address the third element of operational planning in preparation for the urban operations, the element of ways. Don Riley explains "ways":

The operational plan then designs those ways and methods to be used to employ the means and pursue the operational aim. The principal task of the theater commanders and their subordinate commanders is to concentrate superior strength against enemy vulnerabilities at the decisive time and place to achieve strategic and policy aims. The art in designing the ways then is to balance means and aims. ... A commander develops his plan, designing ways to achieve his aim within the means available.¹¹⁵

As with the other elements, but to an even greater degree, determining appropriate ways requires an accurate assessment of the type of war to be waged. Traditionally, the labels used to identify forms of conflict have made no distinction based on location. The labels used have traditionally focused on portraying a sense of the level and type of violence used to prosecute the war. Examples of these types of labels are conventional and unconventional war. Conventional war is often further broken down into the sub-categories of high, medium, and low intensity. This initial concentration on the type of fighting, as opposed to a greater concentration on the environment, makes sense because the level of violence predicted for the fighting bears a more direct relationship to the political goals behind the conflict than the environment in which the fighting will take place. As Clausewitz said: "The political object - the original motive for the war - will thus determine both the military objective to be reached and the amount of effort it requires."¹¹⁶ It seems reasonable that the military use the traditional methods of describing warfare to begin the planning process. Once the expected

level of violence is established, however, the emphasis must shift to determining how the urban environment will impact the conduct of operations. As Richard Kane observed in his article on training for urban combat:

The threat and the operational environment are the foundation for planning operations. Leaders must understand how their potential enemies intend to fight in urban terrain and how urbanization affects their operation.¹¹⁷

Traditional approaches to MOUT have tended to be simple and direct. Michael Dewar summed up the traditional options when confronted by an enemy controlled city as: "... it can be bypassed, it can be neutralized (by artillery and air bombardment), or it can be attacked."¹¹⁸ In today's political environment these options have limited utility. As was discussed previously, the ability to simply bypass large urban areas is eroding. This option also ignores those situations which are the focus of this paper, situations where the strategic goals require urban operations. As for the option to neutralize the city by fire from artillery and air bombardment, in all but the most intense fighting this option is politically insupportable, even in those rare situations where such massive and indiscriminate use of firepower might be militarily justifiable. An example of how the heavy use of firepower can turn into a liability, even when it is used properly and with restraint, comes from the fighting in El Salvador in 1989:

According to civilian eyewitnesses, these bombs killed one civilian and wounded another while killing a large number of guerrillas. The impression this incident created, however, was that the Air Force was bombing indiscriminately without regard for civilian casualties or property damages. That was simply not true. I watched scores of close air support missions during the city fighting and investigated all but one city battle area (the air attaché covered that one) during and immediately after the fighting. All the evidence on the battlefield indicated that ESAF firepower, while destructive, was not used indiscriminately. On the contrary, the ESAF decided early in the battle to try to minimize damages and casualties. The impression created by the news of the bombs, however, coupled with dramatic TV footage of helicopters swooping down on the city firing rockets and miniguns, was detrimental to the government's cause.¹¹⁹

A similar lesson can be found in the experience of a US unit in Somalia:

One of the first lessons the 10th Mountain Division ... learned upon its deployment to Somalia was that it could not use its artillery. ... [I]t is standard urban tactics to use large weapon system to make entrance and exit holes into buildings to avoid doors and windows that the enemy can easily booby trap. The ROEs for these kinds of operations take the assets away. The same rules strip away close

air support and attack helicopters as well. ... Rapidly, the low-intensity urban environment reduces the significant Army advantage in combat power to equal those it would fight.¹²⁰

If the choice is made to go into the city, current US doctrine continues to use the methodologies of WW II.¹²¹ FM 90-10 discusses two methods for gaining control of a city, the use of hasty attacks and deliberate attacks.

A hasty attack is conducted when the enemy has not established strong defensive positions and attacking forces can exploit maneuver to overwhelm the defense. Three tasks are essential to its success: locate a weak spot or gap in enemy defenses; fix forward enemy elements; [and] rapidly move through or around the gap or weak spot to be exploited.¹²²

A deliberate attack is necessary when enemy defenses are extensively prepared, when the urban obstacle is extremely large or severely congested, or when the advantage of surprise has been lost. It may be divided into three basic phases: isolation, assault, and clearance. ...

Phase I is designed to *isolate* the objective by controlling avenues of approach into and out of the built-up area. ... Failure to isolate the built-up area effectively before the assault begins, may require, in the long run, more casualties and time to secure the complex. ...

Phase II consists of an *assault* to rupture the defenses and secure a foothold on the perimeter of the built-up area from which attacks to clear the area may be launched. ...

Phase III is predominantly a *clearance* action which may consist of a systematic building-by-building, block-by-block advance through the entire area; or it may be a rapid advance through a lightly defended section to secure a critical objective, with a subsequent detailed clearance of the area by a follow-on unit. This phase is characterized by decentralized, small-unit actions, and it requires detailed planning to offset the difficulties of control.¹²³

The problem with these methods in today's urbanizing world is that cities have grown so large that they offer poor targets for attack. Most armies today lack the men and materiel to seize a large city quickly. The circumference of a large modern city makes effective isolation extremely difficult, if not impossible. Finding sufficient troops and materiel to secure a city the size of Seoul, South Korea, for example, drains the combat force of reserves and can quickly bring other military operations to a halt. The Germans found that fighting in Stalingrad used so many forces that other offensive operations were impossible. Elaine Babcock studied the effect of organization on the US Army's ability to fight in built-up areas. She determined that a US-style army, conducting an attack on a city the size of Los Angeles, using US Army doctrinal methods, would take several years to complete the clearing of the city.¹²⁴ The report went on to conclude that new, more effective methods must be found for securing large cities, although the report gave no suggestions about how these improvements could be

developed or implemented. A more flexible approach to the problem of controlling a city is offered by R. J. Yeoman. Yeoman proposes that rather than always attempting to secure the entire urban complex, especially in the cases of huge modern megalopolises, the attacker has a number of options as to the level of control necessary to accomplish the assigned mission.¹²⁵ These options include conducting a deliberate attack to seize the entire city; attacking only to seize key objectives within the city; attacking to effect the isolation and containment of the city, or a designated part of a city; seizing only one or more critical corridors to allow unimpeded friendly mobility through the city; and attacks to reduce and destroy specific enemy defenses within the city.¹²⁶ Yeoman says the appropriate level of control is the minimum level required to accomplish the mission. This concept is infinitely more flexible and adaptable than the traditional MOUT doctrine contained in FM 90-10 and FM 90-10-1. Yeoman's suggestions, however, are still subject to criticism for being too traditional because they fail to adequately consider one more critically important element of the MOUT environment, the civilian population of the city to be secured. The need to consider these civilians is clearly stated by Roger Trinquier in his book, Modern War: "The goal of *modern warfare* is control of the populace ..."¹²⁷

While Trinquier speaks more plainly than most, he is not alone in his concern over control of civilian populations. A number of writers on urban warfare remark that native populations play a large role in determining which side has the advantage in urban fighting.¹²⁸ As the intensity of the fighting declines and the ability to overwhelm the enemy with firepower is more tightly controlled, the ability to mobilize the resources of the civil community becomes an increasingly important factor. The ability to gather human intelligence (HUMINT) about the enemy while denying HUMINT to the enemy can often spell the difference

between success and failure. The best way to secure the cooperation of the population seems to be to provide for their survival needs (food, water, shelter) and their security.¹²⁹ The best way to provide for their security seems to be to maintain a strong and effective presence in their midst.¹³⁰ Despite its emphasis on traditional house-to-house combat and reliance on the use of firepower, even FM 90-10-1 notes the need to consider the military force's relationship with the local population:

The local population's support to the enemy may be either forced or given willingly. ... The friendly force commander must be observant and sensitive to the local population's concerns before the population may be willing to help the friendly forces.

Soldiers must remember the political and psychological impact of their actions if they use force. The local population may be neutral or have lukewarm support for the friendly forces, but excessive use of force will cause the local civilians to support the enemy.¹³¹

As mentioned above, control of the population provides a significant advantage while fighting in a city, and must be a goal of any army fighting in urban terrain, but it does not automatically confer victory. Other factors are involved and must be considered in the development of the operational plan. A useful place to start may be with theoretical concepts. These concepts can aid in focusing the planning effort. There are many different conceptual systems the commander can use to establish this focus. The commander should select the conceptual framework based on the effect he wants to create. Some of the more common conceptual actions are to define the enemy and friendly centers of gravity, select lines of operation, and determine decisive points.

FM 100-5 discusses the concept of a center of gravity:

The center of gravity is the hub of all power and movement upon which everything depends. It is that characteristic, capability, or location from which the enemy and friendly forces derive their freedom of action, physical strength, or will to fight. Several traditional examples of a potential center of gravity include the mass of the enemy army, the enemy's battle command structure, public opinion, national will, and an alliance or coalition structure. The concept of center of gravity is useful as an analytic tool to cause the joint commander and his staff to think about his own and the enemy's sources of strength as they design the campaign and determine its objectives.¹³²

The academic definition of this concept has been the subject of much scrutiny and discussion. It may be useful, however, to point out that the utility of this concept, relevant to preparing an operation, lies not in the academic but the effective definition of the term. The value lies in the product. An example of an effective definition is to see the enemy as a system, and the center of gravity as the focal node that ties all of the enemy's subsystems together into an integrated whole. The purpose of center of gravity analysis is to identify this central, essential function, and then design a campaign to destroy this function. This search for the center of gravity must not be confused with the identification of decisive points. The search for the center of gravity is more holistic and inclusive. It requires an examination of the enemy system as a unit, and the interrelationship of the system components, to identify this "hub of all power and movement."¹³³ Decisive points are narrower in scope and function, often serving as critical nodes for one element or subsystem within the enemy's overall system. FM 100-5 describes decisive points as:

Decisive points provide commanders with a marked advantage over the enemy and greatly influence the outcome of an action. Decisive points are often geographical in nature, such as a hill, a town, or a base of operations. They could also include elements that sustain command such as a command post, critical boundary, airspace, or communications node. Decisive points are not centers of gravity; they are the keys to getting at centers of gravity. ... Planners must analyze all potential decisive points and determine which enable eventual attack of the enemy's center of gravity. ... Decisive points help commanders gain or maintain the initiative. ... If the defender controls such a point, it interferes with the attacker's momentum and facilitates the defender's counterattack.¹³⁴

The method and timing of the destruction of the center of gravity must support the strategic objectives of the conflict. The destruction may or may not drive the enemy to capitulate. The campaign may be successful and the enemy choose to fight on anyway. That choice is always in the hands of the enemy; it is not controlled by friendly actions. If the enemy chooses to fight on, however, the destruction of his center of gravity will force him to fight as a fundamentally different system or entity than before. In this case the friendly commander will have to reassess the enemy as a new entity, identify the new center of gravity holding the new

system together, and design a new campaign to destroy this new center of gravity. An illustration of this approach is a hostage situation with a gang of kidnappers. Analyzing the situation might lead to the conclusion that the hostage is the center of gravity, giving the gang its power to hold off the police and bargain. Once that decision is made a 'campaign' can be designed to free the hostage. A raid that successfully frees the hostage might not kill or capture all of the kidnappers, but it fundamentally changes the system. Efforts to capture any remaining kidnappers after the rescue will be a qualitatively different 'campaign' from the efforts made to effect the rescue. Admittedly, this analogy is not perfect, but it serves to illustrate how the concept of center of gravity can be used in a functional way. Hopefully, this will spark others to work with and refine functional methodologies.

Another concept addressed in FM 100-5 are lines of operation. FM 100-5 states:

They define the directional orientation of the force in time and space in relation to the enemy. They connect the force with its base of operations and its objectives. ... In modern war, lines of operation attain a three dimensional aspect and pertain to more than just maneuver. Commanders use them to focus combat power toward a desired end. They apply combat power throughout the three dimensions of space and over time in a logical design that integrates firepower, PSYOP, deception, special operations, and maneuver forces to converge upon and defeat the enemy center of gravity.¹³⁵

The need for concern in selecting appropriate lines of operations in urban areas may not appear obvious. The extensive road grid of a city may make it appear a simple matter to substitute one route for another. This approach has not worked well during actual combat. An example from the US intervention in the Dominican Republic provides an illustration:

The occupation of key facilities received careful attention, as demonstrated by the decision on 30 April to include the power plant on the west bank of the Ozama [River] within the 82d's [ABN DIV] bridgehead and by the marines' incorporation within the ISZ [International Safe Zone] of the Hotel Embajador, a university, and various residences and official buildings. Unfortunately for the Americans, these master strokes were all too few in number. On the debit side, Radio Santo Domingo had deliberately or inadvertently been left outside the LOC, while many industrial, financial, and civic buildings were also located in rebel-held areas. In fact, most key facilities lay under Constitutionalist [rebel] control until late May, when the GNR [Government of National Reconciliation] captured some on its sweep of the north.¹³⁶

In his discussion of modern MOUT, John Zachau characterizes the initial selection of appropriate routes into and through the city as "a vital decision."¹³⁷ R. J. Yeoman concurs. He

concludes that different types of urban terrain have significant effects on the combat functions of maneuver, fire support, mobility and survivability, logistics, and battle command.¹³⁸

City patterns exert a direct and important influence on the tactics, task organizations, and weapons used in MOBA [Military Operations in Built-up Areas]. ... The nature of the surrounding terrain and the spatial relationship of any suburban satellites are important considerations in determining courses of action. ... The forces and weapons available, the size of the urban area and its surrounding environment, and the enemy situation must all be considered. ... These satellites can provide logistical support and act as barriers to an enemy's attempt to bypass the hub. The defender will capitalize on this geographical aspect as well as on natural and man-made features such as rivers, canals, dikes, main roads, and railroads which segment the city and can become obstacles, canalizing the attacker into killing zones.¹³⁹

There are no reliable rules of thumb for selecting appropriate urban lines of operation. The best the commander can do is consider critical points to which he must have access, the resources available to secure the required lines, and the effects of the urban terrain and enemy capabilities on his ability to use the lines unhindered. This is an area that would benefit from more study and analysis, as few relevant resources for research currently exist.

An action that plays a key role in selecting lines of operation is identifying decisive points. FM 100-5's definition of decisive points was already provided during the discussion of center of gravity. The concentration of resources and facilities that make a city an important target for control also complicate the process of selecting decisive points. Yeoman discusses the identification and use of indigenous resources by friendly forces.¹⁴⁰ While most resource locations will not be decisive points, a well researched list of these locations provides a valuable starting point for identifying decisive points. These points will often be geographic, just as in rural combat. Potential geographic decisive points include roads and intersections, bridges, canals or rivers, tall buildings, airports and helipads, sea or river ports, and open areas with longer than normal fields of observation and fire. In cities, potential decisive points can also be based on function. Important local resources include media outlets, utilities, and government buildings (such as the capital or a courthouse). While not qualifying as

decisive points, Yeoman mentions that certain people, based on their skills and knowledge, can be extremely important for control of a city, particularly in low intensity conflict. Examples of these groups are health care workers, utility workers, media workers, and civil service employees.¹⁴¹ S. L. A. Marshall agrees with Yeoman that an unconventional approach is needed when examining the issue of decisive points in an urban environment. As in most of his writings, Marshall remains outspoken and confident in his beliefs:

The most sensitive point in any urban complex is its water supply system, and second to that, its electrical supply system. ... Their dismantling, or disruption, where they can be seized before the city is attacked or invested, almost needless to say, is of first priority, ahead of the capture and securing of the regional air terminal or strip.¹⁴²

Along with garrison points and arsenals, radio and television stations, waterworks and other public utility plants are primary objectives of operations. The list, however, is much longer than is here indicated and the priorities will vary according to how the urban area is structured, whether its population is friendly or hostile and so on.¹⁴³

One may or may not agree with Marshall's specific suggestions for decisive points, but his concluding advice is still valid. As with the selection of lines of operation, the commander will have to rely heavily on his own judgment, the judgment of his staff, the specific conditions of the city in which the operation will take place, and the political/strategic goals of the operation to provide the context to select appropriate decisive points.

One last topic related to ways of conducting MOUT requires comment. That is the doctrinal exhortation to isolate the urban area of operations as the first step to controlling a city.¹⁴⁴ This topic was already touched on briefly at the beginning of this chapter, but requires further discussion. All of the works used in researching this document agree that isolating a city is not only a good idea, but is the only rational way to conduct the operation if the possibility of isolation exists. Without isolation the enemy force can reinforce and resupply at will. The ability to replenish his fighting force allows the enemy to compete with the friendly force for the initiative. It also increases the chance that the operation will devolve

into a battle of attrition, with all of the attendant risks of such contests. The US Army's

Combat in Cities Report addresses the issue of isolating the city battlefield:

If the commander has adequate troops and time available to surround and isolate a built-up area prior to entering it he accrues several advantages. By isolating the area he cuts the enemy off from reinforcement and resupply, cuts any enemy escape routes and places himself in a position to enter the area from a direction of his own choosing. Cutting enemy routes of reinforcement and resupply is critical and failure to do so may prolong the battle as at Hue, RVN, in 1968 or allow the enemy to build up enough combat power to go on the offensive as at Stalingrad in 1942. Although isolation of the area is highly desirable the commander may not be able to accomplish this task.¹⁴⁵

This quote is particularly important because it is a rare admission of the unpleasant truth that a force does not decide for itself whether a city will be isolated. The enemy and the availability of resources are significant factors in determining whether a city can be isolated.

While the actions of the enemy can never be controlled, S. L. A. Marshall offers an idea to get around the dilemma of needing to isolate the city, but lacking the resources to do so. His approach is to bite off a piece of the city small enough to secure and clear, then move on to bite off another piece. Marshall describes his concept:

When the built-up area stands firm and relatively intact, however, and the main obstacle to advance is the defensive fires, penetration is best achieved by a converging two-pronged attack against one quadrant of the [city] ... The attacks should be synchronized. The choice for the attack against the flank is according to the variables hitherto set forth -- which approach is best protected for the hitting force, what ground is most favorable for the supporting artillery, etc. The maneuver is initially a feeling out and has the advantage that it does not risk a heavily compromising involvement to begin. The twin objectives are to achieve tactical control of the quadrant under direct assault and, if possible, to bring the defending garrison to full battle in the open ... The premise here is that if forces of the attack cannot reduce resistance and gain control over a quadrant of the city, they cannot overcome the whole. Should they gain the quadrant, on the other hand, the defense is already half unhinged, since the opposite quadrant then becomes vulnerable from two sides. Furthermore, the nature and substance of the defense, and the countering tactics, become explored and understood in consolidating the hold over the quadrant; then the next stage of the battle should be better systematized.¹⁴⁶

The important effect of Marshall's idea is not that it is the ultimate solution to the problem of having insufficient resources to isolate an urban area, but it shows that options always exist. These potential solutions may not be as clean and neat as we would like, but they exist. The challenge for the operational commander remains, in this as in all other areas, to accomplish

the required end in a feasible way that does not exceed his limited means. Attempts to accomplish this delicate juggling act must invariably lead to the acceptance of risk.

An example of the risks that are a part of any operation are highlighted in Yeoman:

The initial consideration in attacking any urban area ... is to isolate the city itself, mainly to prevent reinforcement from outside the city. Effective isolation also prevents the continuation of logistic support to the defenders. Significantly, however, a city that is isolated from vital external supply sources will quickly become a liability to the attacker. International law, to which the United States is an agreed party, requires that at least a subsistence level be maintained. The logistics planning for such an undertaking, in conjunction with the massive civil affairs activity that would be required, [must be addressed in the operations plan].¹⁴⁷

As this quote shows, there are risks both in isolating the city and in failing to isolate the city.

This illustrates that effective planning does not eliminate risk, but manages risk. The planner must also have the foresight to develop alternate plans to cover contingencies. Riley describes the relationship of risk to aims, ways, and means:

Where means and ways are inadequate to achieve the operational aim, risk must be accepted. Acceptance of risk is the part of the equation that is often lightly regarded in planning, leading to inadequate contingency planning. However, risk abounds in warfare and one who has near parity in combat power with his enemy must accept risks in one area in order to be decisive in another.¹⁴⁸

Described in this way, risk is a pervasive medium in which the actions of conflict occur.

Maurice de Saxe, writing in the mid-18th century, felt much the same way:

War is a science covered by shadows in whose obscurity one cannot move with an assured step. Routine and prejudice, the natural result of ignorance, are its foundation and support.¹⁴⁹

Existing as the dynamic result of the interaction of aims, ways, and means, risk is by definition unknowable. While planners expect a certain action to lead to a certain result, sometimes with a high level of statistical precision, they must recognize that to quantify the probability that an event will occur also means the quantification of the probability that the event will not occur. Plans must be developed accordingly. It is said that statistics can be manipulated to prove almost anything. An example from the Vietnam War is instructive:

Despite the data provided by MACV [Military Assistance Command, Vietnam] showing that the war was progressing well ... Sir Robert Thompson continued peppering [LTG Paul D.] Harkins with reports of his trips throughout the RVN [Republic of Vietnam]. Regarding the drop in VC attacks on the hamlets, Thompson thought that it was much more likely that the VC were making a greater effort to penetrate secretly amongst the people in the hamlets - to set up their underground organizations, to spread propaganda amongst the people, and to coerce them into sympathizing with their cause and joining their secret organizations. "These secret threats to the people," said Thompson,

"are just as frightening as those from armed terrorist units and, if they are allowed to go unchecked, they can influence the people to support the Vietcong cause even more convincingly than armed might."¹⁵⁰

In this case the number of reported attacks was correct; the number was falling. The issue is that two individuals used the same data to come to two completely different conclusions. This is not a problem unique to either Vietnam or MOUT, but it does emphasize the danger that events will not follow predictable patterns. It is not overstating the case to say that unexpected causes and unintended outcomes may be more the rule than the exception when attempting to predict large group dynamics. One of the elements of urban operations that significantly increases planning risks is the greater numbers of people and special interests that must be dealt with during MOUT. These factors greatly complicate the estimate process and so must be considered. Clausewitz's observations about the concept of friction in war seem equally relevant to the topic of risk.

... the best general is not the one who is most familiar with the idea of friction [risk], and who takes it most to heart (he belongs to the anxious type so common among experienced commanders). The good general must know friction [risk] in order not to expect a standard of achievement in his operations which this very friction [risk] makes impossible. Incidentally, it is a force that theory can never quite define. Even if it could, the development of instinct and tact would still be needed, a form of judgment much more necessary in an area littered by endless minor obstacles than in great, momentous questions, which are settled in solitary deliberation or in discussion with others.¹⁵¹

CONCLUSIONS

Having examined the contemporary environment in which MOUT is likely to occur, the MOUT doctrine of the US Army, three case histories of past MOUT, and some of the key considerations for balancing aims, means, ways, and risks in the planning of major urban operations, the following conclusions are drawn:

First, MOUT and MOUT training are important. This author's research uniformly supports the conclusion that urban combat will become more frequent in the years ahead. American involvement in peacekeeping and peacemaking operations will further increase the probability of US forces fighting in urban combat.¹⁵² Even now, urban combat is not

uncommon to the US military.¹⁵³ Experience shows that training for rural combat does not transfer well to urban combat.¹⁵⁴ This is evident in each of the case studies, as well as in every other urban battle the author examined. Yet, we continue to send our troops to conduct MOUT without adequate urban training. Insufficient training leads to needless casualties.

Second, the US currently expends little time, effort, or funds to fix this problem. Revising MOUT doctrine is the necessary first step to improve US MOUT capability. Doctrine is the foundation upon which to build our training programs, organize our forces, and determine the essential equipment needed to fight and win. MOUT doctrine that fails to address the operational conditions of the modern urban battlefield fails in its intended purpose.

Third, history offers lessons that are relevant to the design of future urban operations. Trends indicate that despite the demographic changes in the urban environment, and changes in military technology, the roles the military will be called on to play and the physical conditions of urban combat are changing little, if at all. The three models presented in this paper remain legitimate models for future urban operations.

Fourth, to prepare for an urban operation, planners must appreciate and understand both the similarities and dissimilarities of operational level planning for rural and urban environments. These similarities and dissimilarities can be identified by using a structural framework of analysis. This paper used the concepts of aims, means, ways, and risks, and found them appropriate for urban operational level analysis.

RECOMMENDATIONS

First, the Army must accept MOUT as a real and immediate threat. Leader involvement is needed to spark an awareness of MOUT, particularly at the operational level of war. The saying "Units do well what the boss checks," is a cliché. It is also true. Leaders from the top

down must demand adequate doctrine and training to prepare the Army to fight this largely ignored form of war. Without motivation from within the organization, the organization will not change. If the organization does not change, the next urban battle will result in needless casualties and lost opportunities, just like battles in the past.

Second, doctrine must be updated and made relevant. Much of the research required to support a revision of MOUT doctrine has already been done. The actions needed to improve our doctrine are clear. Training and Doctrine Command (TRADOC) needs to accept this challenge and lead the process of updating MOUT doctrine.

Next, with updated doctrine in place, TRADOC will have the necessary foundation to update the educational requirements related to MOUT. It is not enough merely to provide information. There must be realistic tasks, conditions, and standards assigned to MOUT activities. Not all of this training can be done in a classroom. The best possible solution is to make MOUT tasks part of unit Army Training and Evaluation Program (ARTEP) tasks. The problem with this solution is that it requires training facilities that realistically replicate urban environments. These training facilities are expensive to build, expensive to maintain, and cannot be provided in adequate numbers. A possible solution is to use computer simulations.¹⁵⁵ Different simulations can train different tasks, ranging from individual soldiers to operational commanders and their staffs.

Fourth, using doctrine as a base, the Army must reexamine the organizational structure of forces expected to fight urban operations. Light forces lack the firepower needed against a dug in enemy. Heavy forces lack the infantry manpower to sustain themselves in urban combat.¹⁵⁶ One solution is to create heavy/light task forces. These forces should have a habitual relationship and train together regularly. There are other potential solutions to this

dilemma. The point is that current organizations and doctrine are inadequate to meet the mission. Change is necessary. The issue is to test options and select an acceptable solution.

Finally, there is a need to relook both the current inventory of weapons and weapon procurement procedures to insure the Army has suitable weapons for MOUT.¹⁵⁷ This will require the joint efforts of TRADOC and Army Materiel Command (AMC). The problem is two-fold. One, current weapons were primarily designed to defeat Warsaw Pact forces at long range. Many of the features that were necessary for long range lethality run counter to effective MOUT employment.¹⁵⁸ The 3.5 inch rocket launcher, 106mm recoilless rifle, and M-3 submachinegun were all excellent MOUT weapons that are no longer in the inventory. In each case, these weapons were replaced by weapons of improved lethality, but less utility in urban combat. Second, as a new weapon is designed, there is no systematic review and evaluation for effectiveness in urban environments. Troops cannot fight effectively if they are not given appropriate weapons. A solution is to evaluate our current weapons to determine if they are adequate for MOUT, and purchase new weapons if necessary. Regardless of the efficacy of the current inventory, a requirement should be placed on all future procurements of close combat weapons that they be evaluated, starting in the concept stage, for effectiveness in urban combat. This is not to say that every weapon purchased must work well in MOUT, but if it does not, it should be because of a conscious decision by the user. This would be a great improvement over the current situation in which weapons are purchased without an effective MOUT capability because no one is responsible to check.

In summary, combat in urban environments is an ancient form of combat, but it has never been a preferred method of fighting. Urban combat is slow, attritional warfare, without any of the dash that is often associated with combat in the field. It has been the province of

desperate armies making a last stand. It is a type of combat soldiers prefer to ignore in the hope they will never have to fight. Unfortunately, the world is changing. Strong social, economic, and demographic tides are moving the world's population from a rural to an urban base. Urban combat is becoming more frequent. As it becomes more frequent, we must prepare for MOUT, or our soldiers will pay the price for our unpreparedness. We must remember that our adversaries have at least as much influence over future combat conditions as we do. The words of Clausewitz and Jomini are still relevant:

If the political aims are small, the motives slight and tensions low, a prudent general may look for any way to avoid major crises and decisive actions, exploit any weaknesses in the opponent's military and political strategy, and finally reach a peaceful settlement. If his assumptions are sound and promise success we are not entitled to criticize him. But he must never forget that he is moving on devious paths where the god of war may catch him unawares. He must always keep an eye on the opponent so that he does not, if the latter has taken up a sharp sword, approach him armed only with an ornamental rapier.¹⁵⁹ [Clausewitz]

All history teaches that no enemy is so insignificant as to be despised and neglected by any power, however formidable.¹⁶⁰ [Jomini]

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- ²⁰ John R. Kennedy. Players or Spectators? Heavy Force Doctrine for MOUT. An unpublished monograph, Fort Leavenworth, KS: School of Advanced Military Studies, US Army Command and General Staff College, 1990, p.45.
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- ²⁹ Ibid. The emphasis TRADOC Pam 525-5 places on US technological superiority for fighting future conflicts is evident throughout the entire document. Particularly telling examples of the reliance on technology can be found on pages 3-3, 3-8, 3-10, 3-19, and 3-20.
- ³⁰ Ibid. p.2-7.
- ³¹ Ibid. p.2-8.
- ³² Marc Bloch. Strange Defeat. trans. Gerard Hopkins. New York, NY: W. W. Norton & Company, 1968, p.116. Mr. Bloch's book describes his firsthand experiences as a serving officer during the collapse of the French army in 1940. Many of his observations as to the causes of the French collapse serve as useful warnings to modern soldiers. A brief quote concerning the French effort to predict the actions of the Germans is instructive: "For the enemy is for the strategist a constant headache, and obviously, every soldier is primarily concerned with trying to anticipate his movements and, thereby, to counter them. Unfortunately, in this war, as formerly in 1914 or again in the spring of 1917 just before the Nivelles offensive, the enemy, because we had never learned enough about him, rarely did what we expected him to do. I do

think that this was chiefly due to any lack of prevision on our part. On the contrary, our prevision was almost too detailed. The trouble was that it covered only a limited number of possibilities."

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³⁴ Yeoman and others. p.II-2.

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³⁶ The determination that current US MOUT doctrine is a direct evolution from US experiences in WW II is noted in the following documents: Robert Boyko. "JUST CAUSE, MOUT Lessons Learned," Infantry, May-June 1991, p.28; John F. Meehan. "Urban Combat: The Soviet View," Military Review, September 1974, p.41; and, Reiss and others. p.3.

³⁷ Reiss and others. p.39.

³⁸ Taw and Hoffman. p.25.

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⁴¹ The works cited are: Mahan. p.9; and, Michael Dewar. War in the Streets: The Story of Urban Combat from Calais to Khafji. Devon, Great Britain: David & Charles plc, 1992, p.69.

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⁴⁴ The chronology of events described in this section are based on the work of Eric M. Hammel. Fire in the Streets: The Battle for Hue, Tet 1968. Chicago, IL: Contemporary Books, Inc., 1991.

⁴⁵ Ibid. p.65.

⁴⁶ Ibid. p.105.

⁴⁷ Ibid. p.134.

⁴⁸ Ibid. p.154.

⁴⁹ Nolan. p.13; and, Hammel. p.87 and p.143.

⁵⁰ Nolan, p.53.

⁵¹ Ibid. p.50. The issue of structural damage to buildings from the firing effects of weapons is an important one. LTC Russell W. Glenn has conducted extensive research on the topic of MOUT while the Senior Army Fellow at the RAND Arroyo Center. In a conversation with the author at the School for Advanced Military Studies, US Army Command and General Staff College, Fort Leavenworth, Kansas, on 12 December 1994, LTC Glenn noted: "This problem is not uncommon. Examples of indirect fire weapons (mortars and artillery) causing building collapse due to their positioning on roofs or within enclosed areas are numerous. Internal injuries to

soldiers servicing weapons in enclosed spaces has occurred even when structures remained intact."

⁵² Ibid. pp.86-88.

⁵³ Ibid. p.102 and p.108.

⁵⁴ Ibid. p.183.

⁵⁵ Milton. p.40.

⁵⁶ Hammel. p.105.

⁵⁷ Milton. p.40-41.

⁵⁸ Nolan. p.139.

⁵⁹ Ibid. p.46 and p.140.

⁶⁰ Ibid. p.29.

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⁶⁷ Yates. pp.122-124.

⁶⁸ Ibid.

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⁷² Barry. p.38; and, Yates. p.124.

⁷³ Yates. p.93.

⁷⁴ Barry. p.34.

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⁸⁰ Ibid. p.76.

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⁸² Ibid. p.279.

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⁸⁴ Dewar. Northern Ireland. pp.227-228.

⁸⁵ Ibid. pp.23-24.

⁸⁶ David Barzilay. The British Army in Ulster, Vol. I. Belfast, Northern Ireland: Century Printing Services, 1975, p.I.

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